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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

GRABOWSKI, KYLE ROBERT

ART UNIT	PAPER NUMBER
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3725

NOTIFICATION DATE	DELIVERY MODE
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09/15/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/587,074	Applicant(s) BERGSMANN ET AL.	
	Examiner Kyle Grabowski	Art Unit 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-35 is/are pending in the application.
- 5a) Of the above claim(s) 3-6, 26-30, and 32-35 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1,2,7-25 and 31 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-2, 8-22, 24, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heim (US 2005/0151368) in view of Mayer et al. (US 6,565,770) and Keller et al. (US 2005/0104364).

4. In respect to claims 1 and 10, Heim discloses a forgery proof security feature comprising two metal cluster layers "absorber layers" A1 and A2, a spacer layer "dielectric" D; and a carrier substrate S (Fig. 6). The absorber layers may be formed of metals (0017) which are deposited via a vapor deposition method (0021), therefore producing metal clusters (groups of two or more metal atoms). The cluster layers may be formed of different metals (0017). The combined layers form a color shift effect (Abstract). Heim does not explicitly disclose an "electronically conductive security

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feature" present, for example, in either of the first or second metal layers however while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429,1431-32 (Fed. Cir. 1997). (MPEP 2114). The clusters may be gold (0029), which is an excellent electrical conductor and thus are functionally capable as serving as an "electrically conductive security feature".

5. Heim substantially discloses the claimed subject matter for the reasons stated above but does not explicitly disclose the spacer layer D comprising a polymer, however Mayer et al. teach a very similar security element with color shift effect wherein the dielectric spacer can comprise a variety of materials including polymers (Col. 8, 38-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the spacer layer taught in Heim as a polymeric material in view of Mayer et al. since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Further, Heim discloses that *any* vapor-depositable transparent compound may be used for the spacer layer (0018) and Mayer et al., providing a more extensive list of suitable materials, also includes every material Heim lists as an example.

6. Heim and Meyer et al. substantially disclose the claimed subject matter for the reasons stated above but do not disclose a black layer located underneath the second metal cluster layer A2 (and thus located between the second metal cluster layer and the

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carrier substrate) however Keller et al. teaches a similar invention wherein a black layer 23 is used underneath the optically variable elements 6 and 7, wherein element 7 is comprised of "thin-film elements" which one of ordinary skill in the art understands to be the common name for the Absorber-Dielectric-Absorber structures taught by Heim and Meyer et al. (Keller et al. 0006 & 0053; Fig. 6) and it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the thin-film element (first and second metal cluster layers and polymeric spacer layer) taught in Heim and Meyer et al. with an underlying black layer in view of Keller et al. to increase the brilliance of the visual impression of the optical device by absorbing transmitted light (light not reflected by the metal cluster layers) (Keller et al., 0050) i.e. to absorb obscuring light either transmitting through the carrier substrate or reflection off its front surface. Keller et al. further teach that the black layer can also act as a magnetic layer (Keller et al., 0052), and Heim discloses machine readable effects as desirable (Heim, 0006). Even if it were to be argued that the "thin-film element" is not identical to the structures taught in Heim and Meyer et al., the teaching of providing better brilliance is applicable to any optically color-shifting effect.

7. In respect to claim 2, Heim further discloses that the metal cluster layers "absorbers" A1 and A2 may be imparted via gaps in their structures (thereby making the layers partial); the gaps may comprise characters or patterns (0035).

8. In respect to claim 8, Heim further discloses the spacer layer D having optically active structures (formed via diffraction grating 8) (Fig. 5).

9. In respect to claim 9, Heim further discloses a carrier substrate forming a transfer lacquer layer (0032).

10. In respect to claims 11 and 12, Heim further discloses, for example, Nickel or Iron compounds for the metal cluster layers. These substances are inherently magnetic (further security features).

11. In respect to claim 13-17, Heim discloses the claimed subject matter for the reasons stated above, i.e. providing logos, codes, symbols, (individualization) via gaps in the layers, these gaps further provide different colored effects (0035). Heim does not disclose how the individualization is produced (e.g. electromagnetic waves/laser), however, although product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

12. In respect to claim 18, Heim further discloses filigree or guilloche structures (fine structures) present on the security element (0032).

13. In respect to claim 19, 21, and 31, Heim further discloses that the security element 2 may be applied to a sheet 1 (banknote) and span an open-area clearance 3 (Fig. 2).

14. In respect to claim 20, Heim further discloses the disposition of several alternating spacer (dielectric) and metal cluster (absorber) layers (0015) (inherently

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having different color effects). Further the holographic structure 8 may comprise a reflective metallic background (0073, Fig. 6).

15. In respect to claims 22 and 24, Heim further discloses that a lacquer or transparent layer may be provided on the security element during transfer (0032).

16. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heim (US 2005/0151368) in view of Mayer et al. (US 6,565,770) and Keller et al. (US 2005/0104364) as applied to claim 1 above, and further in view of Chen (US 4,792,667). Heim as modified by Mayer et al. and Keller et al. substantially disclose the subject matter for the reasons stated above, but do not disclose an additional polymer layer having piezoelectric properties however Chen discloses a security document utilizing a protective layer having piezoelectric characteristics (Col. 1, 59-69), comprising, for example, polyvinylidene fluoride (PVDF) a piezoelectric polymer (Col. 2, 55-60), and it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the security element taught in Heim as modified by Mayer et al. and Keller et al. with a piezoelectric polymer coating in view of Chen to provide additional security features, such as an indication that heat was applied in effort to alter the security element (Col. 3, 39- Col. 4, 2).

17. Claims 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heim (US 2005/0151368) in view of Mayer et al. (US 6,565,770) and Keller et al. (US 2005/0104364) as applied to claims 22 and 24 above, and further in view of

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Adamczyk et al. (US 2004/0050269). Heim as modified by Mayer et al. and Keller et al. substantially disclose the claimed subject matter for the reasons stated above but do not disclose pigments in the adhesive/lacquer layer however Adamczyk et al. disclose embedding pigments such as luminescence substances in lacquer layers (0035) and it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the lacquer/adhesive taught in Heim as modified by Mayer et al. and Keller et al. with pigments in view of Adamczyk et al. to produce an added security element "effect" to the lacquer layer (0035). Further, the claim would have been obvious because a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art. (i.e. imparting pigmentation to a lacquer layer).

Response to Arguments

18. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle Grabowski whose telephone number is (571)270-3518. The examiner can normally be reached on Monday-Thursday, 9am - 7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on (571)272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kyle Grabowski/
Examiner, Art Unit 3725

/Dana Ross/
Supervisory Patent Examiner, Art
Unit 3725